A2575-2

American Petroleum Institute
1220 L Street, Northwest
Washington, D.C. 20005

Monthly Statistical Report

Prepared by the Finance, Accounting, and Statistics Department

Vol. 15, No.5

JUNE 19, 1991

MAY 1991

SUMMARY

In May, for the ninth straight month, domestic petroleum deliveries declined. The larger-than-usual, nearly 6 percent decrease reflected substantial drops for all major products. Though some recent economic indicators have been positive, the deterioration of the economy over the past two quarters takes time to erase. Thus, even the most optimistic assumptions about economic growth for recent months still indicate a drop in economic activity on a year-to-year basis. In any event, petroleum deliveries for May continued to display the year-to-year weakness that they have for the past several quarters.

Meanwhile, crude oil production rose 2.9 percent in May, entirely the result of a nearly 4 percent, roughly 200 thousand B/D year-to-year increase for the lower 48 states. Alaskan production was about even with a year ago.

May's total imports reached 8 million B/D for the first time since last August, though this was mainly the reflection of the substantial, 46 million barrel build in domestic inventories rather than any marked shift in the underlying trend in imports requirements. The inventory build continued the replenishment of stocks that had been drawn down by 165 million barrels during the Persian Gulf crisis. With weak domestic demand and, at least for the past several months, year-to-year increases in domestic production, underlying imports requirements so far this year have been running more than half a million B/D below those of a year ago.

Refinery activity in May rose 1 percent, its first year-to-year gain since last September. For the year to date, input to distillation units was still down an average 1.5 percent, reflecting this year's weaker demand. Gasoline production in particular was strong in May, though the 7.1 percent increase from last May was exaggerated because of lower-than-typical output a year ago. This, combined with imports of finished gasoline roughly in line with typical levels for May, enabled gasoline stocks to rise 9 million barrels over the month to 214 million barrels, within about 2 percent of those of a year ago.

PRODUCT SUPPLIED [1]

Gasoline

WEAK DELIVERIES CONTINUE. The view that April's slight uptick in deliveries had overstated the strength in underlying consumption gained support from May's deliveries, which dropped 2.5 percent, year to year. With May's decline roughly matching the year-to-date decrease of 2.2 percent, there has as yet been little evidence of any significant shift in gasoline consumption's underlying weakness so far this year. The marginal increases in miles traveled of recent months, when adjusted for fuel efficiency improvements, also suggest continued declines for gasoline consumption.

In part corresponding with the typical pattern during the spring, retail gasoline prices averaged about 5 cents higher in May than in April. However, compared with a year ago, retail prices were up about 10 cents, only a partial reflection of a 6 to 7 cent increase in crude oil prices, a 5 cent increase in Federal excise taxes, plus a number of state tax increases which added about a cent to the national average.

Though vacation travel is commonly cited as the reason for the peaking of gasoline demand during the summer months, this is, in fact, only part of the story. On an annual basis, vacationing only accounts for about 2 percent of travel. Social and recreational travel, however, account for about a third—and the combination of longer daylight hours, warmer weather, and school vacations all provide greater opportunities for travel tied to social and recreational activities in addition to vacation-related trips. Nevertheless, though the seasonal peak in gasoline deliveries is not negligible, typical deliveries for June-August have averaged only about 5-6 percent higher than for the other nine months in recent years.

Distillates

MOST SECTORS INDICATE DECLINE. Deliveries of distillate fuel fell 6.2 percent in May—their seventh decline in eight months. While distillate supplied has been down more than nine percent (or about 220 thousand B/D) over those eight months, the trend down has been closer to 5 percent when adjusted for weather. Factors influencing this trend in consumption were mixed in May; there was likely growth in the utility sector and moderating losses in highway demand, but these are believed to have been offset by

	API ESTIMATES			
	MAY		YEAR-TO-DATE	
	Million B/D	Percent Change	Million B/D	Percent Change
Total domestic deliveries	15.8	(5.9)	16.2	(4.0)
Crude production[2]	7.4	2.9	7.5	1.4
Total imports[3]	8.0	(7.2)	7.2	(13.9)
Stocks (million bbl)[4]	1,051	(3.2)	na	na

sluggish railroad demand and a decline in heating fuel consumption.

Based on trends in truck travel, we estimate that highway diesel demand, which is believed to have fallen by 2-3 percent during the first quarter, fell more moderately in May, perhaps by less than one percent. However, rail demand is believed to have remained weak, with car loadings falling by about 8 percent for the third consecutive month. May's unusually warm weather softened heating fuel demand, but increased consumption by utilities for meeting cooling needs.

Deliveries to electric utilities make up a relatively small, but extremely volatile, piece of the distillate demand picture. Because distillate-fired generation is generally expensive relative to other sources of power, it is used primarily for meeting peak demand, particularly spikes caused by severe weather. Consider, for example, that consumption of distillate fuel by utilities accounted for less than 1 percent of distillate deliveries this past December, but several times that during the severe cold of December 1989. Increased light fuel oil consumption by utilities for meeting peaking electricity demand added perhaps 1-2 percent to total distillate consumption in May.

Residual Fuel Oil

WARM WEATHER SPURS UTILITY USE, BUT TOTAL FALLS.

While resid deliveries fell 9.3 in May, the relatively sharp decline is believed to have resulted more from above-trend deliveries in May a year ago than a further deterioration in the underlying consumption trend relative to recent months. In fact, demand indicators, particularly weather, suggest that declines in underlying consumption likely moderated for the month.

The warmest May in nearly 50 years contributed to surges in electricity output, both in the resid-intensive East and elsewhere. Nationwide, electricity generation was up more than 5 percent for the month, while in the mid-Atlantic region, generation surged by an even greater 8 percent.

Although demand for space cooling came about a month sooner than normal in much of the country, high secondary stocks of resid appear to have positioned utilities to handle part of the resulting demand surge. Throughout the winter, in the midst of declining resid-fired generation, utility resid stocks were particularly high. Given consumption rates at the time, these stocks represented about 3 weeks additional forward supply on April 1 of this year versus the same time last year. With moderate weather in April, it is likely that these secondary stocks were still relatively large at the beginning of May, allowing utilities to increase consumption in May without increasing purchases proportionally.

Resid demand in the shipping sector likely picked up in May as well. Rebounding waterborne petroleum imports are believed to have strengthened demand for resid as a bunker fuel.

Adjusting for weather, for imports and for last May's deliveries, we estimate the underlying trend of decline in resid consumption to be about 6-7 percent for the past two months.

Kerosine Jet Fuel

DELIVERIES DOWN, TRAFFIC RECOVERING.

Jet kerosine deliveries fell sharply in May for the second consecutive month. However, while unusually large, the 12 percent decline came amid signs of a recovery in underlying consumption. Based on monthly traffic reports from major airlines, we estimate that miles flown grew by about 2 percent year to year, the first increase since December. Part of May's drop was explainable by relatively strong deliveries a year ago, while a portion is believed to reflect apparent secondary inventory shifts during this year's first quarter, when deliveries grew nearly 7 percentage points more than did miles flown.

Aircraft miles flown and jet fuel deliveries typically exhibit contrasting seasonality, with miles flown usually peaking late in the summer and jet fuel supplied peaking in December or January. With prices usually slightly higher on average during wintertime, the contrast in seasonal patterns does not appear to result from price-induced winter airline stock builds, but rather, from jet fuel blending with diesel, often done at marketing terminals during the winter to lower the cloud point of highway diesel.

Undiluted #2 fuel typically will form wax crystals in temperatures below 12 degrees Fahrenheit. Blending can reportedly reach 30-40 percent in some northern states, with the mix richer still under extreme weather conditions. At the national level, we estimate that even a 7 percent blendstock could mean 100 thousand B/D of jet fuel demand during the winter.

With mild temperatures and weakening truck travel this past winter, it is likely that less jet fuel was required for diesel blending than was required last year, perhaps freeing up supplies for jet markets. However, while weather conditions may not have warranted increased blending with diesel, price conditions may have. Following early allied air successes in the Persian Gulf War, jet fuel actually sold at a discount to #2 fuel oil in some markets, perhaps encouraging blending with diesel and heating fuel. The amount, if any, of such blending is not known.

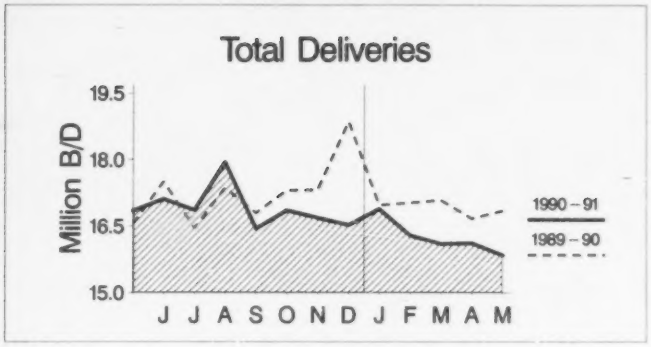
Other Oils

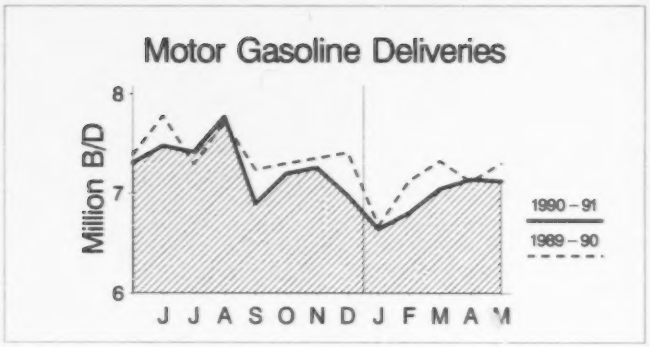
OFF 6 PERCENT DURING MAY.

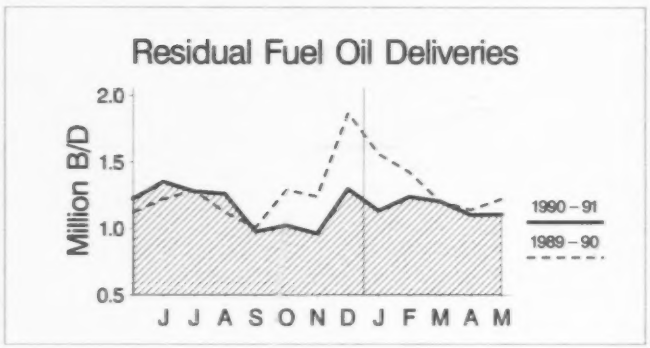
Deliveries of "other oils" dropped a larger-than-usual 6.0 percent for May. This contrasts with the more moderate, roughly 2 percent decline for the year to date, when adjusted for weather.

Petrochemical feedstocks, which account for about a third of the "other oils" category, have been among the products in this group which have felt the effects of the recession over the past several quarters. Petrochemical feedstocks account for roughly 8 percent of domestic product supplied. More than half of these feedstocks, however, are coproducts of natural gas production rather than of crude oil—in the form of ethane (used here to denote ethylene as well), propane, butanes, along with heavier coproducts of gas production. (Nevertheless, once extracted from natural gas streams, these products become part of the "oil" supply/demand balance).

Refineries also account for a significant portion of the supply of petrochemical feedstocks, mainly in the form of naphtha, gasoil, and propane. The choice of feedstocks, though limited to some extent by the flexibility of individual plants, depends not only on their relative costs but on the relative values of the various mixtures of products produced which differ by feedstock. In recent months, for example, gasoil has been a particularly attractive feedstock in relation to the others, based on relative prices of feedstocks and output streams.







SUPPLY [1/]

Production

LOWER 48 CONTINUES TO SHOW GAINS. Domestic crude oil production was up 2.9 percent, or 206 thousand B/D, in May—the largest year-to-year increase in over 5 years. The month's growth resulted entirely from increasing production in the lower 48, where output was up 3.9 percent, reaching a 19 month high. Over the past four months, lower 48 production has averaged about 100 thousand B/D above levels a year ago compared to average declines of about 350 thousand B/D prior to the Iraqi invasion last August. While recent increases outside Alaska reflect the effects of both higher crude prices and increased well completions last year and early this year, May's increase was still surprisingly strong.

In contrast to the lower 48, Alaskan production in May was essentially unchanged from a year ago, and would likely have declined slightly were it not for low production last May (when special projects to increase gas and water handling capability were beginning). Still, even adjusting for this, Alaska's relatively flat performance of the past two months represents an improvement on the roughly 100 thousand B/D decline prior to the facility enhancements.

Drilling activity declined in May, with the number of active rigs at month's end about 16 percent below the same period a year ago. Well servicing activity also fell (for the fifth consecutive month), but was about the same as in May a year ago.

Imports

STOCK-BUILDING BOOSTS IMPORTS. Total imports in May reached a monthly average of over 8 million barrels per day for the first time since last August—though they were still down 7.2 percent from a year ago. The recent month-to-month increases in imports have continued to be more a reflection of a shift towards inventory building than in underlying trends in import needs. If May's inventories had risen by a more typical amount for that time of year, imports of only about 7.3 million B/D would have been needed, down substantially from the 7.9 million B/D that would have been required in the first half of last year if calculated on a similar basis. Weak domestic demand and increased domestic supplies have been responsible for the downward shift.

Product imports, though still down from a year ago, continued to show greater strength than had been apparent early in the year, the result of greater product availability on world markets following the end of the Persian Gulf war. In contrast with a low in February of a little over 1.3 million B/D, product imports in May averaged 1.8 million B/D.

Weaker domestic demand generally kept imports of products below year ago levels by about 20 percent, however. Distillate imports were off 47 thousand B/D to 160 thousand B/D, kerosine jet fuel imports fell by about 37 thousand B/D to 74 thousand B/D, and residual fuel oil imports declined 118 thousand B/D to 389 thousand B/D. Imports of finished gasoline, however, though off by about 116 thousand B/D from last May's strong levels, at 419 thousand B/D were still fairly typical of historical import levels for the month.

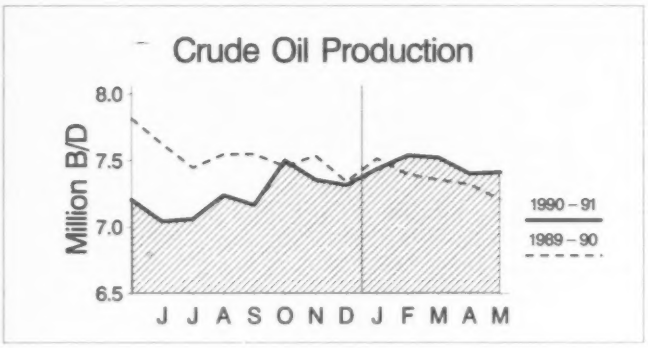
Refinery Operations

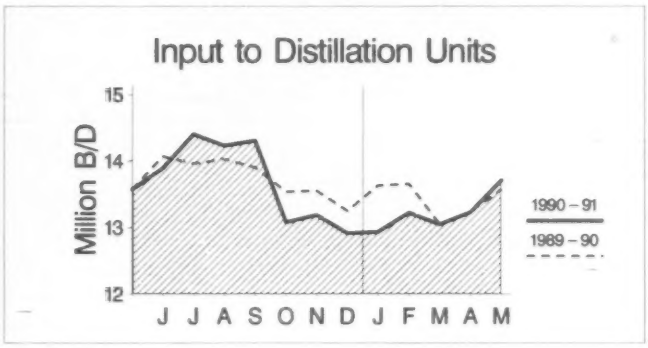
FIRST YEAR-TO-YEAR RISE IN 8 MONTHS. Despite continued weakness in deliveries, May's input to distillation units rose 1 percent, the first year-to-year increase since September. Output of all major products rose, though by varying amounts—the largest percentage increase being for gasoline at over 7 percent. However, about two thirds of this jump was the result of comparison against lower-

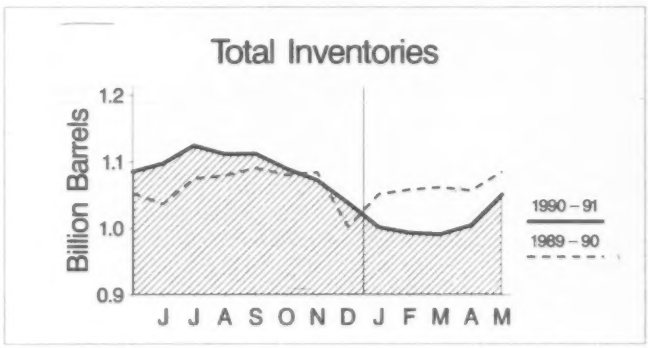
than-typical output a year ago. Distillate output rose 0.8 percent, kerosine jet fuel, 1.9 percent, and residual fuel oil, 6.7 percent. Utilization of reported capacity matched last May's 87.4 percent, while on the basis of capacity in actual operation, utilization exceeded 90 percent, close to the highest observed rate for April in recent years of 91 percent.

Inventories

TOTAL STOCKS JUMP 46 MILLION BARRELS. A substantial build during May replenished total inventories to a level not observed since last November. Rising to 1,050 million barrels, stocks reached a roughly typical level for the end of May. The 45 million barrel rise, which was about twice the recent historical average increase for May, was largely in product stocks, though crude oil inventories also increased by 10 million barrels. Gasoline stocks in particular, which had averaged little change in the previous five Mays, rose 9 million barrels to a month-end level only about 2 percent below a year ago. Distillate stocks rose 7 million barrels to a level 4.4 percent above last May's.







1/ Total supply, i.e., production plus imports adjusted for net stock change is equal to total products supplied from primary storage. Total products supplied from primary storage less exports is equal to total domestic products supplied. Information contained in this report is derived from information published in the API Weekly Bulletin and is based on historical analysis of the industry. All data reflect the most current information available to the API and include all previously published revisions.

2/ Includes lease condensate.

3/ API data do not include crude oil imported for the Strategic Petroleum Reserve (SPR) nor crude oil stocks held in the SPR (according to the U.S. Department of Energy, the SPR held approximately 569 million barrels as of May 31, 1991).

ESTIMATED UNITED STATES PETROLEUM BALANCE
(Daily Average in Thousands of 42 Gallon barrels)

Products Supplied/Supply From Primary Storage	MAY			YEAR-TO-DATE		
	1991[1]	1990[2]	% Change	1991[3R]	1990[2]	% Change
Products Supplied:						
Total motor gasoline	7,124	7,304	(2.5)	6,954	7,109	(2.2)
Finished leaded motor gasoline/*	303	421	(28.0)	275	431	(36.2)
Finished unleaded motor gasoline/*	6,821	6,883	(0.9)	6,679	6,678	0.0
Naphtha-jet	193	182	6.0	176	185	(4.9)
Kerosine-jet	1,133	1,288	(12.0)	1,261	1,295	(2.6)
Distillate fuel oil	2,716	2,897	(6.2)	2,978	3,128	(4.8)
Residual fuel oil	1,108	1,222	(9.3)	1,156	1,309	(11.7)
All other oils[4]	3,752	3,992	(6.0)	3,923	3,977	(1.4)
Reclassified[5]	-182	-42	333.3	-204	-87	134.5
Total domestic products supplied	15,844	16,843	(5.9)	16,244	16,916	(4.0)
Exports	920	690	33.3	1,085	772	40.5
Total products supplied	16,764	17,533	(4.4)	17,329	17,688	(2.0)
Supply:						
Domestic production:						
Crude oil[6]	7,410	7,202	2.9	7,459	7,354	1.4
Natural gas liquids	1,644	1,499	9.7	1,651	1,516	8.9
Other supply[7]	1,178	1,100	7.1	1,143	1,022	11.8
Total domestic supply	10,232	9,801	4.4	10,253	9,892	3.6
Imports:						
Crude oil, total[8]	6,203	6,349	(2.3)	5,503	6,038	(8.9)
Canadian	750	682	10.0	774	610	26.9
Other	5,453	5,667	(3.8)	4,729	5,428	(12.9)
Products, total	1,824	2,300	(20.7)	1,676	2,300	(27.1)
Residual fuel oil	389	507	(23.3)	386	568	(32.0)
Other	1,435	1,793	(20.0)	1,290	1,732	(25.5)
Total imports	8,027	8,649	(7.2)	7,179	8,338	(13.9)
Total supply	18,259	18,450	(1.0)	17,432	18,230	(4.4)
Stock change, all oils	1,495	917	******	103	542	******
Refinery Operations						
Input to crude oil distillation units	13,705	13,570	1.0	13,224	13,423	(1.5)
Operable capacity	15,673	15,527	0.9	15,666	15,519	0.9
Refinery utilization (%)[9]	87.4	87.4	0.0	84.4	86.5	(2.4)
Crude oil runs	13,546	13,389	1.2	13,047	13,259	(1.6)

Stocks (millions bbls.)	1991		1990[2]	% Change from	
	May 31[10]	Apr. 30[10]	May. 31	Previous Month	Year Ago
Crude oil[8]	350.1	339.5	382.5	3.1	(8.5)
Unfinished oils	113.5	112.6	116.6	0.8	(2.7)
Total motor gasoline/**	213.5	204.3	218.0	4.5	(2.1)
Finished leaded motor gasoline/*	7.1	8.1	11.9	(12.3)	(40.3)
Finished unleaded motor gasoline/*	168.4	159.1	166.5	5.8	1.1
Naphtha-jet	5.8	5.8	6.9	0.0	(15.9)
Kerosine-jet	40.8	38.0	40.0	7.4	2.0
Distillate fuel oil	107.5	100.4	102.8	7.1	4.6
Residual fuel oil	44.1	44.0	49.6	0.2	(11.1)
All other oils	175.2	159.6R	168.5	9.8	4.0
Total all oils	1,050.5	1,004.2R	1,084.9	4.6	(3.2)

/1 Based on API estimated data converted to a monthly basis.
/2 Source: U.S. Department of Energy.
/3 January-March, DOE, April-May, API.
/4 Includes crude losses.
/5 Beginning with January 1981, U.S. Department of Energy began using a new data collection system which encompasses a method to ascertain the amount of product reclassified during the production phase. So that there will be no double counting of these volumes, they are subtracted from the total domestic products supplied.
/6 API estimate; includes lease condensate.
/7 Includes Unaccounted-for crude oil, which will reflect withdrawls from the SPR when they occur, processing gain, field production of other hydrocarbons and alcohol.
/8 Data do not include oil imported for the Strategic Petroleum Reserve (SPR) nor crude oil stocks held in the SPR.
/9 Represents "Input to crude oil distillation units" as a percent of "Operable capacity".
/10 Derived by interpolating API weekly stocks data.
/R Revised.
/* Included in motor gasoline.
/** Includes finished leaded, finished unleaded, and motor gasoline blending components stocks.